

**BULLETIN No. 27**

**THE GALENA AND CHICAGO  
UNION RAILROAD**

**The Railway and Locomotive  
Historical Society**

200

# BULLETIN No. 27

## THE GALENA AND CHICAGO UNION RAILROAD

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**I**N presenting the fourth special bulletin to our members, it was felt that the pioneer road west of Chicago, the Galena & Chicago Union R. R., should logically follow the history of the Chicago, Burlington & Quincy R. R. While it is true that the Galena & Chicago Union R. R. was the first to start construction west of Chicago, it is not, as some suppose, the parent of the present Chicago & North-Western Railway. This latter road commenced operations under the name of the Illinois & Wisconsin R. R., then as the Rock River Valley Union R. R., again as the Chicago, St. Paul & Fond du Lac R. R., and finally as the Chicago & North-Western Ry. In 1859, this latter road extended from Chicago to Janesville, Wisconsin, ninety-one miles, and had a short line from Minnesota Junction to Fond du Lac, Wis., twenty-nine miles. This was the nucleus of the present Chicago & North-Western System.

When we consider that in 1848 Chicago was not joined with Buffalo or any other eastern city by rail, but in the next decade the Michigan Central had joined it with Detroit, the Lake Shore & Michigan Southern with Buffalo and the Pittsburg, Ft. Wayne & Chicago with Pittsburg. Out of Chicago had been built the Illinois Central, the Chicago, Alton & St. Louis, the Chicago, Burlington & Quincy extended to Quincy, the Chicago & Rock Island to Rock Island, the Galena & Chicago Union to Freeport and Fulton, the Chicago & Milwaukee, the Chicago, St. Paul & Fond du Lac, the Milwaukee & La Crosse to La Crosse, and the Mil-

waukee & Mississippi to Prairie du Chien. This is a record breaking event for railroad building considering the conditions as they existed. Many of these conditions will be found in the reports of these early roads and those of the Galena & Chicago Union R. R. are no exception to this statement.

The author wishes to acknowledge with thanks the assistance given him by Mr. A. W. Johnson, our Chicago Representative in furnishing some of the illustrations used in this bulletin and to Mr. Cole for the loan of material from the Chicago & North-Western Magazine. The close-up views of the "Pioneer" were sent to this Society some time ago by Mr. W. O. Moody, one of our Directors, and it is fitting they should appear in this bulletin. The reports of the Galena & Chicago Union R. R., upon which this bulletin is based, are in the files of the Baker Library, Harvard Business School, Boston, Massachusetts. To Mr. Robert R. Brown, our Canadian Representative should go the credit of furnishing the map that accompanies this material.

# Galena & Chicago Union Railroad Company

By CHAS. E. FISHER.



HE pioneer line, to be built westward from Chicago, was the Galena & Chicago Union R. R. Mention has been made in connection with the Chicago, Burlington & Quincy R. R., of the trackage rights given the Chicago, Burlington & Quincy by the Galena & Chicago Union R. R. The reports of this Company, prior to the consolidation with the Chicago & North-Western Railway afford genuine interest to the student of railway history.

Under date of 1847, we find that Richard Morgan, Engineer of the Galena & Chicago Union R. R. made a report to the Directors of that road in the nature of a survey of the route. This road was intended to connect Chicago with Galena, Illinois, on the Fever River, a tributary of the Mississippi River.

On January 16, 1836 the Legislature of the State of Illinois approved the act to incorporate the Galena & Chicago Union R. R. The capital stock was to be \$100,000.00 and Messrs. William Bennet, Thomas Drummond, J. C. Goodhue, Peter Semple, J. W. Turner, E. D. Taylor and J. B. Thomas, Jr. were commissioned to secure subscriptions to this enterprise. The west was too new and too poor to support this enterprise. Finally, Mr. W. B. Ogden, a real estate man of Chicago became interested in the road and in 1847 we find him as President with Messrs. W. L. Newberry, Charles Walker, J. H. Collins, J. Y. Seammon, W. H. Brown, John B. Turner, Thomas Dyer, B. W. Raymond, all of Chicago; Wm. Noble Davis of Au Sable Grove and Messrs. Charles S. Hempstead, Thomas Drummond of Galena and Allen Robbins of New York as Directors. Mr. Francis Howe was Secretary and Treasurer.

The Report of Mr. Richard Morgan, the Engineer, is so interesting that the majority of it will be included.

"For the last thirty years, during which years the western country has been rapidly increasing in population and importance, internal improvements have contributed in a degree beyond all estimation to accelerate the development of its resources, to add to the value of every article of export, and to create business which could not exist without them. The main lines, either of canals or railroads, extending to the Atlantic cities, have been constantly thronged by an incessant multitude, travelling for business or pleasure, while a traffic exceeding all previous anticipation, has been annually increasing, till it is scarcely accommodated by the means provided for its transportation. The Erie Canal has opened an avenue to the Great Lakes, without a parallel in the amount of business it commands, but utterly inadequate to the future wants of the vast country it approaches. The Welland Canal, the Erie Railroad, the contemplated Central Railroad of Pennsylvania, are all strong indications of the views and feelings of the Eastern cities. The day has

arrived when an intense interest is aroused; the attention of capitalists has been directed westward and is drawn to points where the great streams of business must accumulate from the valley of the Mississippi, and Chicago will soon be regarded as the great depot at the head of the Lakes, a central point for eastern railroads and the medium of a commerce eventually to exceed in magnitude all that now exists in the intervening countries. \* \* \* \* \*

"The survey was commenced near Chicago, on the half section line corresponding with the centre of Kinsley street, on which course it continues for thirteen miles, crossing the Des Plaines river a little south of the St. Charles road. The surface of the ground was found to rise to a point fifty feet above Lake Michigan so uniformly as to require no gradients above three feet to the mile. The continuance of a straight line farther west might involve expenses beyond the advantages to be gained, and in order to cross the ridge which divides the waters of the Des Plaines and Salt Creek, to the best advantage, the line diverges a little to the northward, changing its direction by a slight curvature, and continues on a straight line four miles, nearly to Salt Creek. The elevation here is 96 feet—a cutting through a ridge brings the gradients to 12 feet in the mile, gradually ascending westward. Beyond Salt creek, a course nearly west again is pursued and continues for ten miles to the head waters of the West Du Page river—altitude 160 feet, no gradient over ten feet to the mile. On approaching Fox river, the country falls off rapidly into a deep valley; if crossed, either at right angles or diagonally, a heavy gradient would be required, descending to the west, thereby diminishing much the effective power of the railroad; because experience has shown that the traffic eastward will be three to one greater than that to be transported westward. The line was therefore continued nearly north-west over a level prairie, seven miles. From this point, which is near the north-west corner of Du Page county, the route is almost north, and to maintain the level of 160 feet, passes through Elgin, in the upper part of the east village, and continues for four miles farther up the river to a suitable place for a bridge, which will be 36 feet high, and one mile below the village of Dundee.

"The summit or dividing ridge between Fox river and the head waters of the Kishwaukie is considerably more elevated than the country east of Elgin and St. Charles, but there is no depression on pursuing this ridge southward between Fox and Rock rivers till the head waters of streams emptying into the Illinois are met with. There is a remarkable ravine or rather valley five miles above Dundee, through which the waters of Crystal Lake are discharged into Fox river. I could discover no place, above Aurora, so favorable for the construction of a railroad, on which light gradients are of primary importance. The summit is 145 feet above the bridge across Fox river. By following the western bluff of the valley, and continuing on the side hill for seven miles beyond Dundee, a gradient nearly uniform can be maintained, nowhere exceeding 17 feet to the mile. It may hereafter be a consideration, whether the steepest gradient shall be reduced to 15 feet by some additional expense of excavation and embankment. This part of the line might also be varied and run to Crystal Lake. \* \* \* \* \*

"On proceeding westward the country presents to the eye an uninterrupted view of even surface for an immense distance. For  $28\frac{1}{2}$  miles the Kishwaukie falls gradually and slowly, the surface of the country admitting the construction of a railroad, nearly level to Belvidere. From Belvidere to Rockford two routes have been surveyed, the more direct line of nearly 14 miles requiring gradients descending to the westward 15 feet to the mile, while by adding  $5\frac{1}{2}$  miles in distance and passing further down the valley of the Kishwaukie through Milford and thence northward over the flats east of Rock river, a line almost perfectly level can be adopted. At Rockford, on the east side of the river, and at the southern extremity of the village, is a high bluff, through which it will be expedient to make a cutting of 15 feet for about one-third of a mile, in order to reach in a proper direction the most eligible place for a bridge, which must be 40 feet high and 650 feet in length. The bottom of Rock River is, at this place, composed of smooth rock, eighteen inches below the surface of the water at a common stage, and does not essentially vary in depth at any place in crossing the stream. Excellent building stone for piers and abutments can be procured within half a mile. From Rockford the line still bears to the northward, over a smooth country, rising only 40 feet in 20 miles, to a point northeast from Twelve Mile Grove and near the Pekatonic river—no gradient over eight feet to the mile, after cutting 25 feet for a short distance, in the dividing ridge between that stream and Rock river. Following the valley of the Pekatonic to Freeport, the gradients are from two to six feet in a mile.

"Near the mouth of Yellow river,  $1\frac{1}{2}$  miles below Freeport, there is a choice of two routes, the one following up the river to its source, the other through Freeport by Preston's Branch, on the north side of a range of mounds which lie west of that village, and thence to the head of Yellow river. The first mentioned line was merely explored, the other was surveyed—the gradients having been found to vary from six to twelve feet per mile. If, however, the conclusions I was able to arrive at by my examinations of Yellow river valley are correct, the gradients will fall below 15 feet to the mile, and wholly descending to the east. From the headwaters of this stream to Galena the country presents an appearance very much in contrast with the beautiful and even prairies east of Rock river. It is generally composed of high mounds and deep ravines, its prominent characteristics being those of a region rich in mineral treasures.

"Fortunately, the dividing ridge between the Pekatonic and those streams which discharge themselves more directly into the Mississippi, lies in the exact course of the railroad, and its surface, which approximates very nearly to a perfect level till within 13 miles of Galena, corresponds, as to elevation, with the ground at the headwaters of the Yellow river. It is intersected, however, by one deep ravine, through which passes the principal branch of Apple river. Notwithstanding the extraordinary depth of this chasm, it is so narrow between the rocks, where the railroad will cross it, that a bridge can be thrown over it without difficulty. The ridge alluded to extends west to Scales' Mound, where it is crossed by another ridge, extending from Wisconsin at

right angles to the first. This separates the Pekatonic and the head waters of Apple river from Fever river, a branch of which runs about a mile and a half west of Scales' Mound. From the summit or ridge alluded to, a ravine extends to the valley or east fork of that stream. On the side hill, and through this hollow, a uniform gradient for  $9\frac{1}{4}$  miles can be maintained, and can be reduced, without any extraordinary expense, to 37 feet per mile. The remaining  $3\frac{1}{4}$  miles along the valley of the Fever river has a gradient of 10 feet to the mile to a point favorable for entering the city.

"The following tables contain the proportion of curvature and straight line, also the extent of gradients and level surface on the whole route:

#### Curvature

Miles	Radius
12	From 3500 to 5000 feet
10	From 2500 to 3000 feet
160	Straight Line
182	

#### Gradients

No. of miles ascending westward	37	19	4	6	$5\frac{1}{4}$	$8\frac{1}{2}$	4	$4\frac{1}{2}$	3
Feet per mile	$2\frac{1}{4}$	$3\frac{1}{2}$	5	8	$9\frac{1}{2}$	10	12	15	18
No. of miles ascending eastward	$9\frac{1}{4}$	$28\frac{1}{2}$	3			50			
Feet per mile	37	5	10			level			

"The excellence of this line, however, can be better understood by a comparison with other railroads. From Scales' Mound to Chicago, its mechanical effect will be nearly, if not quite, equal to that which is obtained on the celebrated Reading Railroad—the only railroad that can compete with a canal in the transportation of freight.

"The true theory of a perfect line for a railroad, is one that is straight and having a uniform gradient corresponding to the amount of traffic passing each way. In practice, variations arise from want of uniformity in traffic. It is nearly uniform on the Reading Railroad, which is principally for the transportation of coal; the gradients are all either level or descending towards Philadelphia; the heaviest descent is eighteen feet to the mile. Consequently, as the same engine must expend double the power on the ascent that would be consumed on the level with the same load, it can draw back little more than the empty cars, with an equal degree of speed; by diminishing the speed, however, an increase of the load may take place to a certain extent, consuming also a proportionable amount of fuel, oil, time, etc. There is, therefore, a ruling gradient dependent upon the nature of the business, and to which the maximum power of the engine should be adapted. Between Scales' Mound and Chicago the ruling gradient would be five feet to the mile, and would reduce the load 25 per cent., as compared with level. In practice, on a road for general purposes, the engine and tender,

together with the cars, usually constitute one half the gross load, and the power which draws a load down a gradient of eighteen feet to the mile can only return (at the same speed) with the empty cars. If on the Galena road all the descending planes to the east are reduced 15 feet to the mile, the load on the ruling gradient would be as 3 to 1 of goods, compared with the loads moving westward. How nearly this will correspond with the future traffic of the railroad cannot now be precisely determined, but there is a strong probability that the return trade will fall rather below one-third of the immense tonnage in mineral and agricultural products that will seek an eastern market. \* \* \* The average cost, however, of transporting a ton of freight from Galena to Chicago will not be more than 5 per cent per mile over the rest of the line. There are reasons for supposing that the difference will be still less, for as the elevation to be surmounted is near one of the termini of the road where a depot with extra engines and hands, when required, would always be in readiness, consequently the amount of traffic could be provided with corresponding moving power without increasing general expenses. Fuel and ordinary repairs would constitute the whole extra cost. In descending from Scales' Mound to Galena, little or no steam would be required, because the accelerated force of the train moved by its own gravity, would almost bring it into town.

"On an undulating road, a full head of steam is necessarily kept up, and no saving of fuel is made excepting on very long inclinations. The great Western Railroad between Boston and Albany is undulating, or at least variable. A train passing eastward from Albany ascends long gradients from 40 to 60 feet per mile, varied occasionally by intervening levels; after traveling about 50 miles the inclinations increase to 80 feet per mile. Here a full load requires extra power. After reaching the summit, which is at an elevation of 1400 feet above the Hudson river, the train descends a long incline of nine miles, falling from 78 to 83 feet per mile. This descent is so rapid that little saving can be made in fuel, the steam being employed to aid the brakes in checking the motion of the train. The amount of fuel consumed, however, constitutes but a portion of the expenses of working a railroad. Maintenance of way, hands and general expenses form a large proportion. These do not vary greatly between a level road and one with heavy gradients, although the latter requires some extra workmen, while the track is subject to more wear from an extra number of engines.

"To exhibit fully the loss on heavy gradients, the amount of goods conveyed, compared with the gross load, should be considered. On a level the weight of the empty cars, added to that of the engine and tender, constitutes, in general, one-half the load. On an 80 feet gradient (the engine and tender weighing 28 tons), the dead weight becomes as four to one over the amount of goods carried. For instance, assuming 400 tons, including engine and tender, as the load train by a 22 ton engine on a level, the weight of the goods may be 200 tons, and the effective power must exceed 3200 lbs.

"On an eighty feet gradient, 100 tons will require the same power: Deducting 32 tons for the cars and 28 for the engine and tender, the



weight of goods will be 40 tons. Consequently the power consumed for the transportation of freight is five times greater than what is required on a level. Notwithstanding all these disadvantages, the Boston Railroad is successful and transports freight cheaply. It should be remembered, however, that these extremely heavy inclinations extend over only one-fifteenth part of the whole distance, and that 50 feet to the mile is the ruling gradient over the remainder of the line. By a similar calculation, taking into view every circumstance that can affect the conditions of the question, the Boston Railroad consumes three times as much power in conveying a ton of goods as will be required on the Galena Railroad, over the same distance.

"From the subjoined tables it will be seen that the total cost of the Chicago & Galena Railroad, with an H rail of 56 lbs., will amount to \$2,648,727. The whole line from Albany to Boston, (on which a barrel of flour is taken through for 25 cents,) cost \$10,000,000. It is true that this is at cost, the profits being made from the way traffic and passengers. It has been shown that the consumption of power is three to one over the Galena road. Admitting the same general expenses to exist in both cases, (which is at least 25 per cent. in favor of the Boston road,) the cost of transporting a ton of goods from Galena to Chicago would be three-fifths the expense of taking the same load from Albany to Boston; and the cost of transporting a barrel of flour would be 15 cents.

"Estimated Cost of the Galena and Chicago Union Railroad.

**First Division, from Chicago to Salt Creek—17 miles.**

Excavation and haulage of common earth, 126,000 yards (cubic) ..	\$9,965.00
Masonry, 460 yards (cubic) .....	1,520.00
Superstructure of bridges, etc. ....	1,768.00
	<hr/>
	\$13,253.00

**Second Division, from Salt Creek to Elgin—23 miles.**

Excavation and haulage of common earth, 528,137 cubic yards ..	\$36,242.00
Masonry, 600 cubic yards .....	2,080.00
Superstructure of bridges, etc. ....	11,400.00
	<hr/>
	\$49,722.00

**Third Division, from Elgin to Rockford—60 miles.**

Excavation and haulage of common earth and rock, 884,000 cubic yards ..	\$181,000.00
Masonry, 6,490 cubic yards .....	15,050.00
Superstructure of bridges, road bridges & culverts .....	27,300.00
	<hr/>
	\$223,350.00

**Fourth Division, from Rockford to Freeport—34 miles.**

Excavation and haulage of rock and earth, 570,000 cubic yards ..	\$101,000.00
Masonry, 5,460 cubic yards .....	20,000.00
Superstructure, road-bridges, etc. ....	22,300.00
	<hr/>
	\$143,300.00



### Fifth Division, from Freeport to Galena—48 miles.

Excavation and haulage of rock and earth, 1,890,000 cubic yards.	\$283,400.00
Masonry, bridges, culverts, etc. ....	104,000.00
	<hr/>
	\$387,400.00

### Total Cost of Preparing Road-Bed.

Excavation and haulage of 3,998,137 cubic yards; masonry, 25,510 yards; together with cost of culverts, bridges, road-crossings, etc. amount to .....	\$ 817,025.00
Add 10 per cent. for engineering and incidental expenses....	81,702.50
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	\$ 898,727.50

If the road is fenced it will add \$1000.00 per mile .....	182,000.00
Right of way (for the most part gratuitous) allow .....	50,000.00
Superstructures, at \$7000. per mile .....	1,274,000.00
Depots, repairing-shops, water-stations, engine-houses and side-tracks .....	114,000.00
Engines and cars .....	130,000.00
	<hr/>
	\$1,750,000.00
Add cost of road bed .....	898,727.50
	<hr/>
Total .....	\$2,648,000.00*

Or \$14,553 per mile.

"The foregoing estimate is for a single track; the bridges being constructed for a double track. It is worthy of notice, however, that the cost of the superstructure is much heavier than the road-bed. In the Eastern States, on very favorable lines, the graduation has cost twice as much as the track, and in some instances has exceeded it, four or five fold. Such results are striking illustrations of the superior natural advantages of the country through which the Chicago & Galena Railroad passes, so far as relates to cheapness of construction and the opportunities afforded for attaining great mechanical effect. They have been arrived at by liberal allowances in the measurements, as well as keeping within the limits of plain and established rules to estimate practical effects. That nothing delusive might be adopted in seeking the third great element on which the success of a railroad depends, I allude to the amount of business it will command; all the statements which have been obtained, either from careful inquiry while on the route, or from documents of statistics which I have been able to obtain, have been closely scrutinized and large allowances made for every possible exaggeration.

"With these precautions, the following table has been constructed, exhibiting the kind and quantity of freight, which would constitute the business of the first year, if the railroad were *now* in operation:

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\*The error in addition exists in the report.

### Freight Table.

#### Tonnage from the West.

Lead and copper, 10,000 tons, at \$3.50 .....	\$ 35,000.00
Wheat, including flour, 2,000,000 bu. at 5c .....	100,000.00
Corn, oats, barley, potatoes, etc., 5,000 tons at \$2.00 .....	10,000.00
Pork and Beef, 4,000 tons at \$2.00 .....	8,000.00
Cheese, lard, butter, etc., 500 tons at \$4.00 .....	2,000.00
Wool, hides, skins, livestock, etc., 1,000 tons at \$3.00 .....	3,000.00
Manufactured articles & mechanical products, 500 tons at \$2.00 ..	1,000.00
Wood, coal, lime, brick, stone, ship timber, staves, etc., 2,000 tons at \$2.00 .....	4,000.00
Sugar, coffee, molaasses, etc., 1,500 tons at \$2.00 .....	3,000.00
	<hr/>
	\$166,000.00

#### Tonnage from the East.

6,000,000 ft. of boards, plank and joist, 6,000 tons at \$2.00 ....	\$ 12,000.00
Shingles, lath and other lumber, 1,000 tons at \$3.00 .....	3,000.00
Merchandise, including groceries, hardware, crockery, paints, etc. at \$4.00 .....	20,000.00
Salt, iron, farming tools, castings, machinery, and every other article, 4,000 tons at \$3.00 .....	12,000.00
	<hr/>
	\$ 47,000.00

Trade from the West .....	\$166,000.00
Trade from the East .....	47,000.00
	<hr/>
Total .....	\$213,000.00
Passengers .....	150,000.00
Mails .....	30,000.00
	<hr/>
Total income .....	\$393,000.00

"Fifty thousand through passengers at \$3.00 each, yielding a revenue of \$150,000.00 is assumed as equal to all the travel from every source. The present number of inhabitants in the district of country from which the railroad would afford the greatest facilities for passing, between the Mississippi and Lake Michigan, is ascertained by the last State census and other authentic data, to exceed 200,000. The business habits of the people, their enterprise and the present importance of the cities at the termini of this railroad, are well known to you. Every farmer wants to sell wheat and every farmer's family wishes occasionally to come to Chicago. I am confident that when you come to consider these facts, in addition to the well known periodical crowd of travellers from the South, together with a portion of the multitude emigrating westward, also the new commercial and business relations which must grow up with, and independently of the railroad, you will at once pronounce the estimate of 50,000 annually as very moderate.

"To simplify in the present instance the mode of calculating the cost of working the railroad, let the practical fact connected with the Boston Railroad, that 25 cents is the cost of transporting a barrel of flour from Albany to Boston, and that the total cost of working the Galena Railroad is but two-fifths as compared with it, 15 cents would then be the cost of taking a barrel of flour from Galena to Chicago, or at

the rate of \$1.50 per every 2,000 lbs. Consequently, if the total of 100,000 tons, as per estimate, were conveyed over the whole line, the total income for freights, which is \$213,000, would leave but \$63,000 clear profit. But it must be remembered that a great proportion of this freight is way traffic, admitting of a reduction of at least \$50,000 out of \$150,000, the total estimated cost of transportation; hence, the clear profits on freight are \$113,000. In reference to the cost of conveying passengers, the proportion of dead weight to a ton of passengers and their baggage is always much greater than its ratio to freight. This arises from two causes—the inequality of travel, and the necessity of high speed. From the first cause, the average number *per diem* each way, out of 50,000, would be 68. Two cars capable of accommodating double the number must be constantly run through, weighing 11 tons, the engine and tender at least 15 tons; to which, adding the weight of the baggage-car and post-office, the whole would equal 30 tons; 68 passengers and their baggage usually weigh but 7 tons. The cost of running this train, including all the hands, repairs of cars and engines, oil, etc, would amount, according to the last report of the Reading Railroad Company, to 91 cents, 7 mills per passenger; add two-thirds of this amount for general expenses, and each passenger costs \$1.53, or in the aggregate \$76,500 for 50,000 leaving a balance of profit equal to \$73,500.

Total receipts . . . . .	\$393,000.00
Total expenses . . . . .	176,500.00
	<hr/>
	\$216,500.00

“From these data it is ascertained that in the very first year that the Galena Railroad shall be in operation, over 8 per cent. will be gained on the capital expended. Lest the result should be considered at variance with the effects experienced on Eastern railroads, let all the circumstances affecting each be fairly investigated, taking again the Boston and Albany Railroad as an example. The state of Massachusetts, at the time that great work was commenced, together with that part of the State of New York through which it passes, contains an area of country about equal to that part of Illinois assumed as within the immediate influence of the Chicago and Galena Railroad. The population and value of lands, excepting in particular locations, had been stationary for many years; it was an old worn-out country, deriving its wealth from great industry and economy, while many of its most enterprising citizens had gone West; hence, a railroad over the Green Mountains was treated, by the majority, as a visionary project. Ten years had elapsed before the Legislature would consent to aid in its construction. During the time occupied for this purpose no remarkable effects were produced, population did not increase, property was not generally enhanced in value, and farmers were opposed to it. Boston capital at length forced it through, over every physical obstacle and in spite of all opposition, and has obtained a share of western business, contributing at the same time to the receipts of the railroad and her own commercial prosperity. But the effects of this great work were slowly and gradually developed; at first after scarcely paying expenses,

afterwards increasing its receipts, for several years at the average rate of 14 per cent. per annum, while its income has increased in the last three years in the astonishing proportion of 40 per cent.

"The circumstances connected with the Chicago and Galena Railroad present a most striking contrast. Instead of barren mountains, it passes through one of the most fertile countries on the globe, where every man will rejoice in its construction and contribute all he is able for the purpose. Instead of stagnation and opposition, as in Massachusetts, during the interval between its commencement and completion, its population and wealth will increase by anticipation, and the accumulated products of industry and enterprise will throng the railroad immediately upon its going into operation. Settlers now avoid coming on to lands of the utmost fertility and possessing every good quality they can wish for, if compelled to sacrifice all they can make in hauling their products to market. It is a fact well known, and frequently adverted to, that a farmer near Rock river expends as much in getting his wheat to market as all other expenses of ploughing, sowing, harvesting and threshing. To build the Galena road is to offer an annuity of \$150 dollars to every farmer within 20 miles of it, who lives 40 miles from Chicago. If it could be completed in 1850, and if it could be known that such would be the case, it is a moral certainty that an amount of agricultural and mineral products would be awaiting its operation, equal to what is assumed in the estimate as the business of a large portion of the year. It is not, however, from these causes alone that the increase of population, instead of going on in a decreasing ratio, will proceed with as much rapidity as for years past; the railroad will offer a thousand inducements to enterprise that cannot now exist; much fine water power lying useless will be applied to various purposes; a new stimulus will be given to manufacturing and mechanical labor, and by establishing numerous branches of business, which could not otherwise exist, will continue to create new traffic and rapidly accelerate the period when Northern Illinois will take the first rank in wealth and importance.

"Boston is a large commercial city, offering a good market for a large and industrious population, drawing to itself by railroad an immense trade, much of which sought other points previous to their construction; the Connecticut and Hudson rivers will ever continue to absorb a large share of the business. The Galena road has nothing of this kind to contend with; a Southern market has ever been inferior to the Eastern, and competition, excepting by a parallel railroad, would be impracticable." \* \* \* \* \*

1848

Mr. W. B. Ogden, the President, makes two interesting statements in this report, as follows:

"It cannot have escaped the observation of all acquainted with the region of the country to be affected by the construction of this important work that if constructed now and extended east from Chicago, around the head of Lake Michigan till it meets the Michigan Central Railroad,

as it soon will be, it secures to the country through which it passes, the *great North-Western Rail-Road thoroughfare, for all time to come.*

"No other continuous route of rail-road will ever be made to that great and rapidly improving country lying west and north-west of Lake Michigan, to the north of the southern end of that lake, if this road is established there first. No line to the south of it, near enough to compete with it, will be at all likely to build while the business of the country can be prosecuted upon the road in which we are now engaged. Indeed no other line to the south of it can compete with it, for the trade and travel of more than half a million people now at the north and west of it, and tributary to it; and the only struggle we have to secure all the great considerations and ends we have in view, lies in the completion of the road to Elgin. Once finished to that point, it will promptly demonstrate its profitable character and usefulness and command the confidence of all, and the means necessary to ensure its immediate extension to its termination at Galena."

Mr. John Van Nortwick, Chief Engineer, in his report dated April 5th, 1848, gives us the information that from Chicago, thirty-one miles, extending to a point about four and one half miles east of St. Charles have been located. His report contains an estimate of the cost of building the road and the part relative to the superstructure is of interest:

"The superstructure of the road upon which the present estimate is based, is to be composed of cross-ties, nine feet long and six inches thick, which are to be laid thirty inches from centre to centre; on these are to be placed longitudinal rails of Norway, or yellow pine, a portion six inches square, secured in place by triangular blocks or knees of scantling, firmly spiked to the ties on each side. Upon the longitudinal rail is an oak ribbon, one and one quarter by three inches square, and on this ribbon, an iron plate rail, two and one-half by three-fourths, or seven-eighth inches, and weighing about thirty tons to the mile."

#### 1849

In this report, Mr. W. B. Ogden, President, again calls attention to an eastern connection. He states as follows:

"The Michigan Central Railroad is also to be completed to the lake at New Buffalo, next month, and two daily lines of steamers are then to be run between Chicago and that point, a distance of 45 miles, and the ordinary time of travel from Chicago to New York and Boston, is then to be reduced to two and a half days. The increased travel and business consequent on the completion of this great public thoroughfare to a point so immediately in connection with us, demonstrates still more strongly the necessity for and the profit to result from the extension of the Galena and Chicago road."

Mr. John Van Nortwick, Chief Engineer, states—"The grading from Chicago to the West DuPage river, a distance of twenty-seven and a half miles, is completed with the exception of a small amount of work on a few of the sections. The bridge over the Des Plaines river has been completed, and the materials for the two other bridges occurring

in this portion of the line, (one over Salt creek and one over the east DuPage river,) have been delivered.

"The laying of the first ten miles of superstructure, extending from the north branch of the Chicago river to near the Des Plaines river, was completed about the fifteenth day of December last. The gravel required on the road bed and for ballast on this portion of the line, must be obtained at a point about eight miles from Chicago, and will be conveyed by gravel cars early in the spring.

"There is now delivered and on hand about three hundred tons of iron rail, 125,000 feet of Norway pine rails, a large portion of the spike required, and a small part of the ribbons and ties. About fifty tons of iron rail are now delivered at Buffalo, and the balance of the 1300 tons contracted, is to be delivered at that place, soon after the opening of navigation.

"The company have on hand one second hand locomotive which is in good order, and will answer all purposes connected with the construction of this division, and its repairs after it is in operation. A new fifteen ton engine with four driving wheels has been contracted of Messrs. Norris & Brothers, of Philadelphia, through Asa Spriggs, Esq., of Rochester, to be delivered at Buffalo, soon after the opening of navigation. One more, at least, of like character, will be required the present season.

"The cars built and delivered are, six four wheeled and six eight wheeled platform freight cars, three four wheeled and four eight wheeled covered freight cars, two hand and four small gravel cars. Three eight wheeled covered freight cars and one passenger car are under contract and will soon be completed; nearly all of the lumber and a portion of the wheels, axles and iron are delivered and on hand for the cars remaining to be built to complete the number estimated."

The road carried freight and passengers from Chicago to the Des Plaines river, making one trip a day during the past winter.

#### 1850

Miles of Road Operated . . . . .	42.5	No. of Locomotives . . . . .	4
Chicago to Elgin.		No. of Passenger Cars . . . . .	6
		No. of Freight Cars . . . . .	38

On January 22, 1850, the road was completed to Elgin, a distance of 42½ miles. At Chicago, a freight station housing the offices of the road had been constructed and also an engine house and smith shop with a temporary car shop. At the junction of the Aurora Branch R. R., a permanent freight station was built and a temporary engine house. At Elgin an engine house and water station had been erected. These buildings together with the necessary wood and water stations were all the road had up to this time.

A wharf in front of the Company's lands on the north branch of the Chicago river was constructed. Use of it was delayed because it was necessary to widen the channel of the river.

"One locomotive and an extra pair of driving wheels and trucks have been procured, beyond the estimate of last year, at a cost of \$8,500.



FIG. 1

William Butler Ogden, upon whose faith rested the success of this enterprise.

(Courtesy of the Chicago Historical Society)



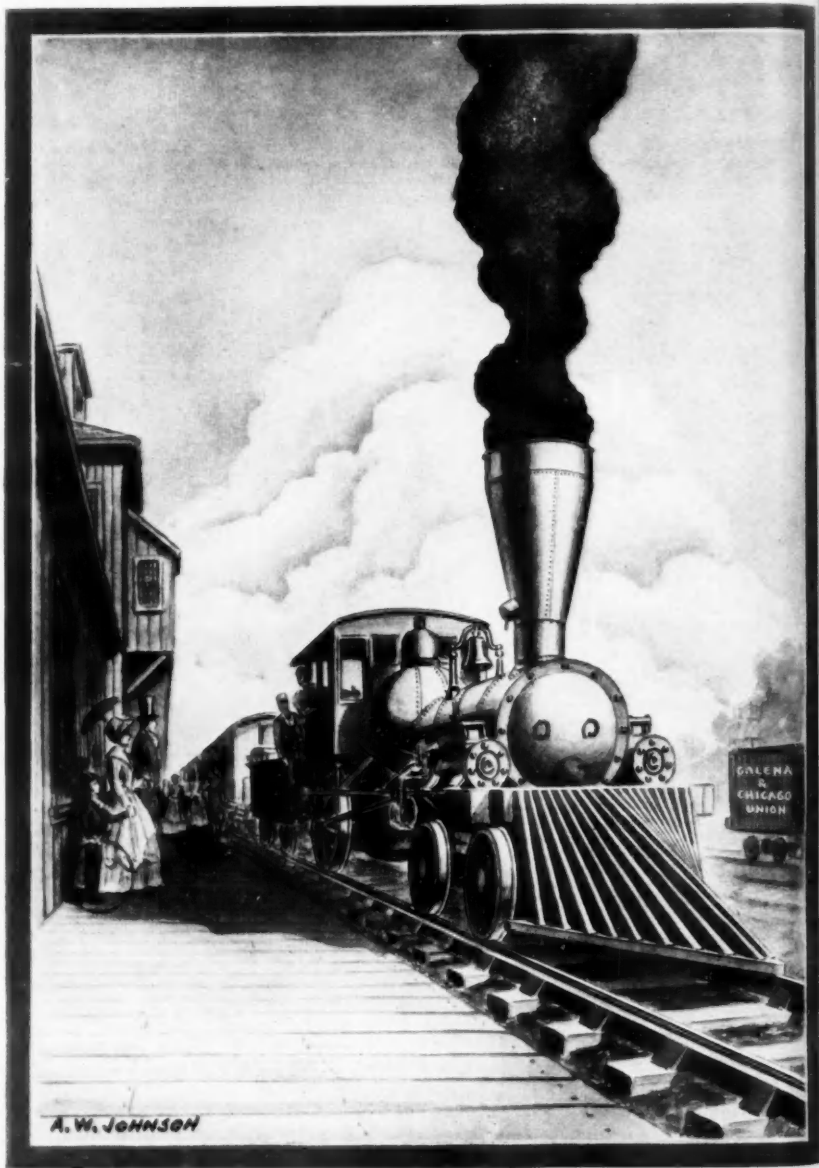


FIG. II  
Westward Ho!  
The "Pioneer" and Train

(Drawn by A. W. Johnson)



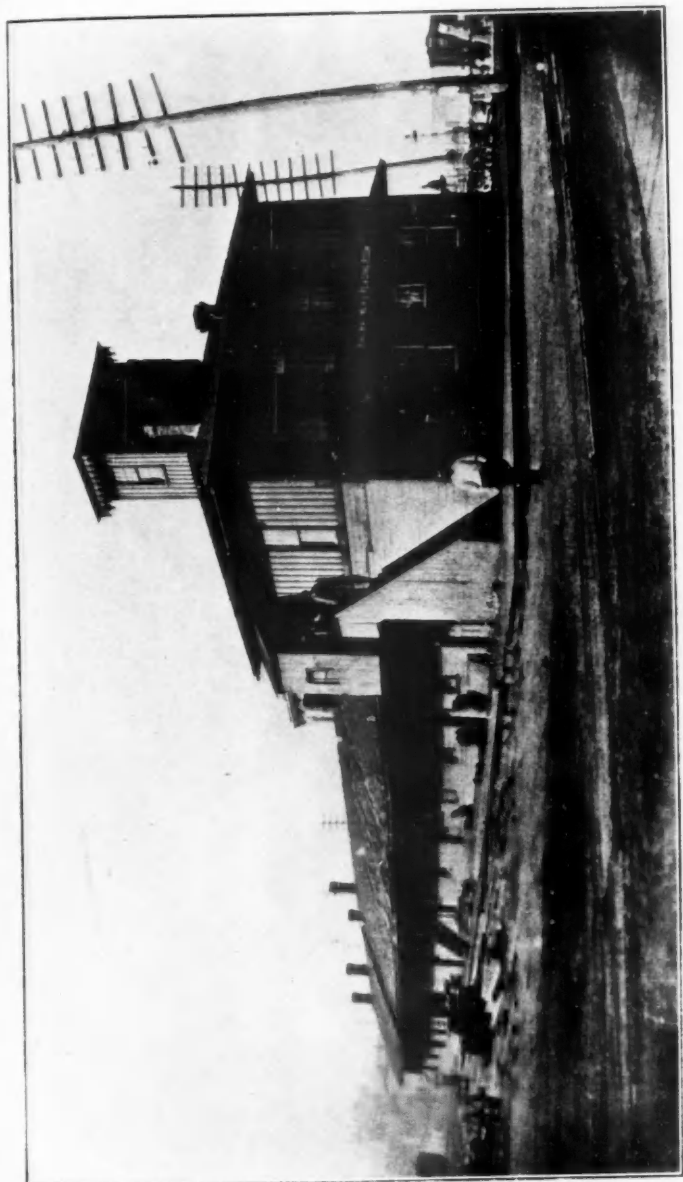


FIG. III  
The old Galena & Chicago Union Station at Chicago.  
(Courtesy of the Chicago Historical Society)

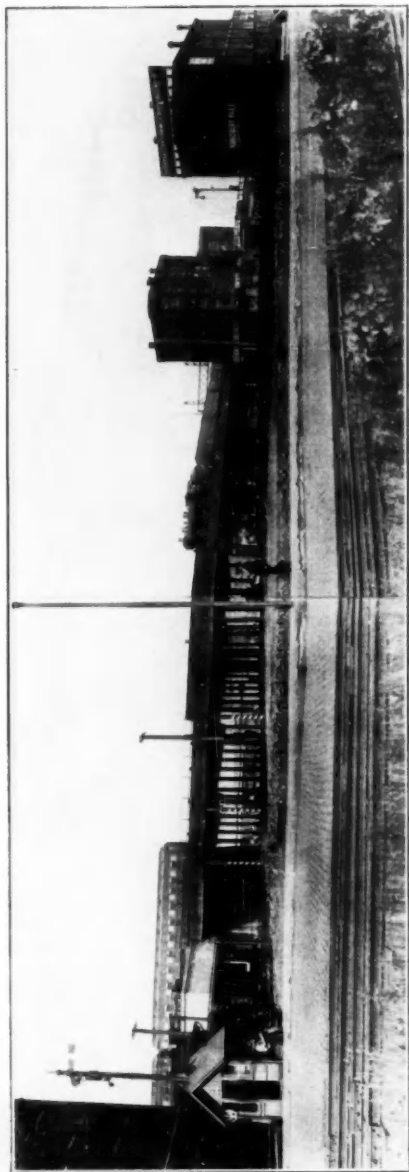


FIG. IV

Site of the old G. & C. U. Station at Canal and Kinzie Streets, as it appears today. C. M. St. P. & P. freight line in the foreground, C. & N-W terminal tracks on the viaduct with old line at the left.  
(Photographed by A. W. Johnson)

# Time Table

	A.M.				P.M.		
	1	2	3		4	5	6
Leave Chicago	8			Leave Elgin	2		
Arrive at Stiles	8 31	2 30		Arrive at Junction	4 50	2 50	
Leave Stiles	8 40	2 40		Leave Junction	5 05	3 05	
Arrive at C Hill	9 1	3 1		Arrive at Wheaton	5 12	3 12	
Leave C Hill	9 4	3 4		Leave Wheaton	5 15	3 15	
Arrive at B Grove	9 19	3 19		Arrive at Sunstable	5 30	3 30	
Leave B Grove	9 26	3 26		Leave Sunstable	5 40	3 40	
Arrive at Sunstable	9 30	3 30		Arrive at B Grove	5 44	3 44	
Leave Sunstable	9 40	3 40		Leave B Grove	5 57	3 57	
Arrive at Wheaton	9 55	3 55		Arrive at C Hill	6 06	4 06	
Leave Wheaton	9 58	3 58		Leave C Hill	6 09	4 09	
Arrive at Junction	10 15	4 15		Arrive at Stiles	6 30	4 30	
Leave Junction	10 20	4 20		Leave Stiles	6 35	4 35	
Arrive at Elgin	11 0	5 10		Arrive at Chicago	11 10	5 10	

TIME TABLE GALENA RAILROAD.

FIG. V.

Early Galena & Chicago Union R. R. Time Table. No Date.

(Courtesy of the Chicago Historical Society)

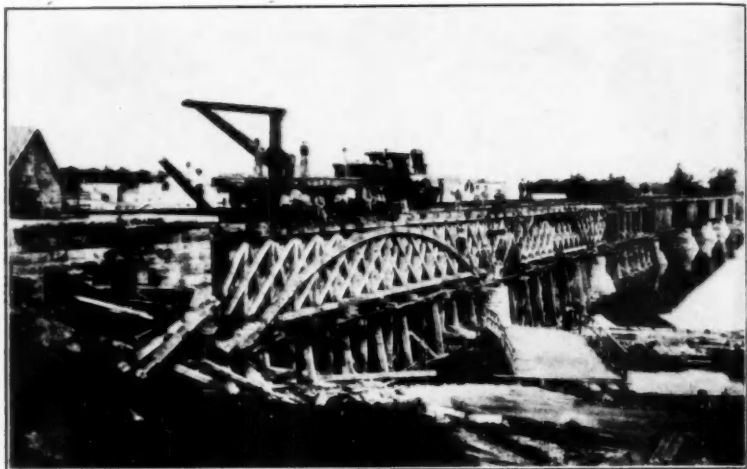


FIG. VI

View showing the old "Pioneer" in later days on the C & N-W in construction service.  
(Courtesy of A. W. Johnson)



FIG. VII

A view of the "Pioneer" showing water barrel on left side to which the pump was connected.  
(Courtesy of W. O. Moody)

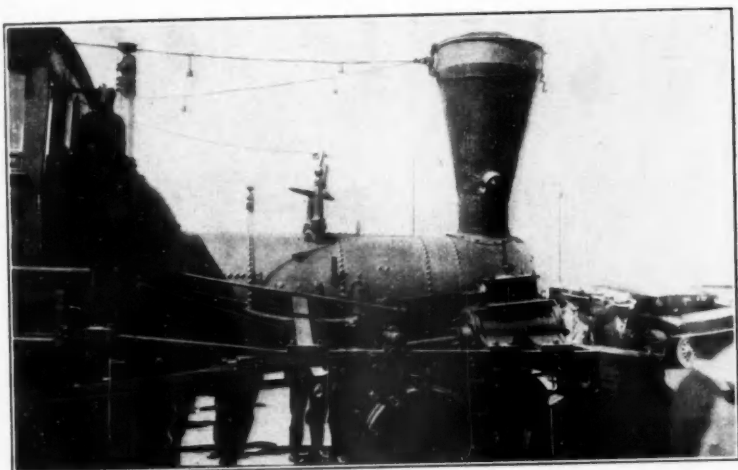


FIG. VIII

A close-up view of the "Pioneer"

(Courtesy of W. O. Moody)

1864

G. I. C. U. R. R.

## LEASED LINES

C. &amp; N-W. R. R.

## Other Lines



Map of the Galena & Chicago Union and Chicago & North-western roads at time of the consolidation.  
 C. D. BROWN, JR., Engr. Chicago, Ill. 1890, Vol. 2, p. 3.

About \$500. will be required to pay cost of transportation, insurance, putting a house on the engine, and placing her in running order." The "house" referred to evidently means locomotive cab and it is of interest to note that as late as this year, this protection had not been placed on all locomotives.

The following statement is given as it shows the expenditures in connection with the construction of the First Division:

Grading, bridging and culverts . . . . .	\$102,432.13
Superstructure, incl. sidings, turntables, etc. . . . .	164,131.87
Buildings, machinery, tools, wood & water stations . . . . .	9,924.22
Wharf, excavating river, planking depot grounds and streets . . . . .	3,468.48
Locomotives . . . . .	27,381.70
Cars . . . . .	33,845.64
Right of way . . . . .	5,875.20
Depot grounds in Chicago . . . . .	13,391.10
Engineering . . . . .	15,450.67
Salaries of officers and agents, incidental expenses and interest applicable to construction . . . . .	29,481.35
<b>Total . . . . .</b>	<b>\$405,382.36</b>

Mention is made of the St. Charles Branch Road, connecting with this road thirty-three miles from Chicago and extending four miles to St. Charles. Also, the construction of the Aurora Branch connecting with this road thirty miles from Chicago and extending to Aurora.

Mr. Van Nortwick, Chief Engineer, makes an interesting statement relative to depreciation—"As a general principle there should be laid aside from the earnings of the road, such sum as would be requisite for renewal or deterioration, in order to keep the original investment good."

In his report covering the activities on the Second Division, Mr. Van Nortwick urges the adoption of a T rail weighing sixty pounds to the yard, even though it would increase the cost over the estimate by \$130,000.00.

#### 1851

Miles of Road Operated . . . . . 42.5	No. of Locomotives . . . . . 4
Chicago to Elgin	No. of Passenger Cars . . . . . 9
	No. of Freight Cars . . . . . 90

Work of building the road westward on the second division continues and it is hoped to complete the road to Belvidere by next January. On the third division, surveys show that to reach Galena by railroad, two routes are available—one via Scales' Mound and the other via Savanna. The Galena branch of the Illinois Central must occupy one of these routes for fifty miles and if this company should construct their road upon the other route, the two roads would parallel each other for about that distance. It is suggested that the roads form a junction at some point east of Galena and construct but one road to that place.

During the past six months the road has derived no little revenue from the Aurora Branch road. The latter road has determined to extend and connect their road with the Galena branch of the Central road, thus making a continuous line to La Salle and Rock Island. The importance of the traffic from the Aurora Branch road caused the Direct-

ors, upon the expiration of the agreement, to make terms mutually beneficial to both roads.

In Chicago, Block One, of the Original Town of Chicago, has been purchased for depot purposes. This lot was located on the north side of the main river, below the draw-bridges, and about one half a mile from the present (1851) terminus of the road. It had a front on the river of three hundred and twenty feet.

During the year the Directors agreed conditionally to construct a branch road to the state line at Beloit, with a view of commanding the trade of the Rock River valley with branches built from this point. Proper location of this branch, together with its connections, would bring a large amount of business over the road.

#### 1852

Miles of Road Operated .....	84	No. of Locomotives .....	9
Chicago to Cherry Valley .....		No. of Passenger Cars .....	15
		No. of Freight Cars .....	149

Forty-two miles of the second division are now in operation, the road reaching Cherry Valley on March 10th. The unfavorable winter delayed the grading so that Rockford will not be reached until August 10th of this year. (The Annual Reports of this company are dated on May 1st and the operations covered include the time from the first of May of the year previous to the first of May of the year in which the report is dated.)

In this report it is evident that an agreement has been concluded between this road and that of the Illinois Central for it states that the third division will extend from Rockford to Freeport where connection will be made with the Illinois Central. The distance will be 28.78 miles.

In Chicago, on the property mentioned in the last report, a machine shop has been erected for the repairs of locomotives and adjoining the machine shop a round house, capable of accommodating twelve locomotives together with a turn table has been built. A car shop and freight station is in the process of erection. In addition to Block One, the north half of Blocks Ten, Fifty-nine and Sixty were purchased. "A passenger house is necessary, and should be built at Chicago the present season. In this building should also be provided offices for the transaction of business of the company and vaults for the security of the records and papers."

The report states that it will cost \$659,338.08 to relay the first division with T rail. This sum includes fencing.

An interesting method of financing was followed and I can do no better than quote the following from the report:

"The plan adopted by the Board, in providing for the equitable prosecuting of the several Divisions of the Road, giving the parties subscribing to the stock of each Division the right to the earnings of such Division after its construction, in lieu of interest, until the next Division should be ready for operation, has made it necessary to keep separate and distinct accounts of the earnings and expenses of operating the First, and that part of the Second Division in use. This division of accounts



will not be necessary after the first of August next, at which time the two Divisions may be consolidated."

Of the nine locomotives owned by the road, the report states that one ten ton, one eight ton and two twenty ton are "old."

The road was extended westward as follows:

Huntley Station, 55 miles from Chicago, opened Sept. 15, 1851.  
Marengo Station, 66 miles from Chicago, opened Oct. 18, 1851.  
Belvidere Station, 78 miles from Chicago, opened Dec. 3, 1851.  
Cherry Valley, 84 miles from Chicago, opened Mar. 10, 1852.

The report for the year is signed by John B. Turner as President. Mr. Ogden's name does not appear among the directors.

#### 1853

Miles of Road Operated .....	92	No. of Locomotives .....	16
Chicago to Rockford		No. of Passenger Cars .....	27
		No. of Freight Cars .....	326

On August 1, 1852, the road reached Rockford, thus completing the building of the Second Division. The cost of building these two divisions, exclusive of rolling stock up to May 1st of this year, was \$929,669.44. On the first division, the new rails are being laid and all but ten miles of the work has been completed. The track has been thoroughly ballasted and additional buildings erected.

The Beloit Branch, extending from Belvidere to the State Line, where it will connect with the Beloit & Madison R. R., building to Madison and Portage City, is now in process of construction. This branch will be twenty miles in length.

In Chicago, construction of a passenger station has started but is not yet completed.

Mr. Van Nortwick, Chief Engineer, in his report, advises the double tracking of the road from Chicago to Cottage Hill, a distance of 16 miles, and from that point building a direct but separate line to Elgin and thus shorten the distance six and one-half miles. This was suggested with the view of handling the traffic expected from the roads now building and which would act as feeders to this system. Between Rockford and Dixon, the Rockford & Rock Island R. R. was building to connect with the Mississippi Jet. R. R., extending from Dixon to the Mississippi River. Mr. Van Nortwick suggested the building of a branch of the Galena & Chicago Union R. R., from the Junction, thirty miles west of Chicago, to connect with the Rockford & Rock Island R. R., thus making a direct route from Chicago to the Mississippi River at Fulton, Illinois. Mr. Van Nortwick also suggested the extending of this branch to Savanna, connecting with the Savanna Branch R. R. at Mount Carroll. The latter road is being located between Freeport and Savanna, 35 miles in length.

At Elgin, the Fox River Valley R. R., is being built up that valley to the State Line, 32 miles distant. The Chicago & Aurora and Central Military Tract roads make connection with the Galena & Chicago Union R. R. at the Junction, thirty miles west of Chicago. The construction and completion of the branches and roads caused Mr. Van Nortwick to suggest the laying of another track to Cottage Hill.

# 1854

Miles of Road Operated . . . . .	142	No. of Locomotives . . . . .	30
Chicago to Freeport & Beloit Br.		No. of Passenger Cars . . . . .	34
		No. of Freight Cars . . . . .	535

On September 1st, 1853, the road was completed to Freeport, thus making the road 121 miles in length.

On the first division, the remaining ten miles of strap rail has been removed and replaced with T rail.

On November 14, 1853, the Beloit Branch was opened for traffic, the distance being 21 miles.

On the Dixon and Central Iowa route, 45 miles of track were laid up to Jan. 10th of this year. The charter of the Galena & Chicago Union R. R. was amended in 1853 to permit its building to Dixon.

A lease and agreement with the Mississippi & Rock River Jct. R. R., provided the Galena & Chicago Union R. R. should lay the superstructure, complete the road and furnish the rolling stock and operate it in perpetuity. This will furnish a direct line of 135 miles from Chicago to the Mississippi River.

# 1855

Miles of Road Operated . . . . .	211.5	No. of Locomotives . . . . .	44
Chicago to Freeport. Fulton & Beloit Branch		No. of Passenger Cars . . . . .	46
		No. of Freight Cars . . . . .	684

The report of the Chief Engineer for this year is signed by Mr. John P. Ilsley, Mr. Van Nortwick having accepted the presidency of the Chicago, Burlington & Quincy R. R.

Mr. Ilsley, in his report, gives a very interesting summary of the building and conditions of the road. He states that additional accommodations in Chicago must be furnished to the growing passenger traffic. Mr. Van Nortwick, in his report dated May 2, 1853, stated that the passenger depot, then building, would be completed that summer. The date of the opening of this station is not given in any of the reports. Plans are being made to enlarge the present structure. A new freight station and a "grain house," the latter to be completed in September, have been built. The latter will allow the unloading of four hundred cars daily. The lumber business was important as lumber could be furnished cheaper from Chicago, even to points on the Mississippi River, than that supplied from the upper river.

The Beloit & Madison R. R. has been completed to Footville, 17 miles north of Beloit, and in a year or two this road is expected to be a very valuable feeder to the Beloit Branch.

# 1856

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	52
Chicago to Freeport, Beloit & Fulton City.		No. of Passenger Cars . . . . .	48
		No. of Freight Cars . . . . .	905

During the year, negotiations were closed with the Chicago, St. Charles & Mississippi Air-Line Railroad Company for the purchase of the depot grounds of that company on the south branch of the Chicago

River, the track to the Des Plaines River, and other property. The total amount expended for this purpose was \$566,880.54. Although the agreement with the Illinois Central R. R. provided for the use of its tracks from Freeport to Galena, provision was also made that the Galena & Chicago Union R. R. should have use of the Illinois Central-Michigan Central depot in Chicago.

Mr. Ilsley, Chief Engineer, in his report, states the second track from Chicago to Cottage Hill is now completed and partly ballasted. During the past year a connection of one and one quarter miles of track were built to Oak Ridge where connection was made with the Chicago, St. Charles & Mississippi R. R., so that trains can enter that station owned in common with the Fort Wayne & Chicago R. R. A draw bridge has been built permitting connection with the Illinois Central, Michigan Central and Chicago, Alton & St. Louis Railroads. A similar connection is also planned with the Michigan Southern & Northern Indiana R. R. The report closes with the resignation of Mr. Ilsley.

#### 1857

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	56
Chicago to Freeport, Beloit & Fulton		No. of Passenger Cars . . . . .	50
City		No. of Freight Cars . . . . .	1141

"During the past year, a line of telegraph has been constructed from the Junction of the Main Line, with the Fulton Line to Fulton, on the Mississippi River, which completes the telegraphic communication over the whole length of both lines, and places all of the important Stations in direct communication with the General Office, at Chicago, and with each other. It is also connected with the telegraph lines of the Chicago, Burlington & Quincy Railroad, and of that portion of the Illinois Central upon which joint business is done. It is now generally conceded that a single track railroad cannot be considered as completed until it is furnished with a telegraph line and offices at all the important stations."

The Illinois Central completed the connection of the main line with the Mississippi River at Galena and Dunleith. Charters have been obtained for the building of bridges across the Mississippi River at both of these points and one or the other will soon be built thus making connection with the Dubuque & Pacific R. R.

"The large increase in the receipts of the Chicago & Rock Island R. R. since the completion of the bridge over the river, and the extension of a railroad beyond it, furnishes the best practical evidence of the value of such a crossing and extension, and shows conclusively, that a bridge communication across the river at Fulton is required for the protection of your interests."

#### 1857

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	60
Chicago to Freeport, Beloit & Fulton		No. of Passenger Cars . . . . .	63
City		No. of Freight Cars . . . . .	1369

The fiscal year of the road has been made to end on December 31st, so that this report covers the last eight months of 1857.

In times of prosperity we are apt to be so busy as to neglect details, but in times of adversity, the troubles and tribulations are set forth fully. The report for the last eight months of this year, is by far the most interesting, save possibly for the first two, issued by the road.

President Turner shows very clearly why the road from Chicago to Fulton became the main line, due to the Illinois Central building from Freeport to Galena, and why the Fulton line, the most direct one to the Mississippi River should be favored. This blocked the construction of the Chicago, St. Charles & Mississippi Air Line R. R. from Chicago to Savannah, with the result that the proprietors of the latter company were glad to sell it to this company in 1854.

President Turner enumerates the roads built by other companies but which extend from the main line of the Galena & Chicago Union Railroad:

1. Chicago, Burlington & Quincy R. R. Begins at Turner, 30 miles west of Chicago and extends southwesterly to Burlington and Quincy, on the Mississippi River, with an aggregate length of 280 miles.

2. Fox River Valley R. R. Begins at Elgin, 42.5 miles from Chicago and extends for 32 miles to the State Line where it connects with the Wisconsin Central R. R., which is built 10 miles farther.

3. Beloit & Madison R. R. Begins at Beloit, 98 miles from Chicago and extends northwardly, having been built for 17 miles.

4. Illinois Central R. R. Connects with this road at Freeport and extends northwesterly to Galena and Dunleith, on the Mississippi River, a distance of 67 miles, making there a connection with the Mineral Point R. R. running north from Warren for 32 miles and with the Dubuque & Pacific R. R. extending from Dubuque about 50 miles westward.

5. Chicago, Iowa & Nebraska R. R. Begins at Clinton, nearly opposite Fulton, the western terminus of this trunk line, and runs westerly for 36 miles.

The various traffic agreements between these roads and the Galena & Chicago Union R. R. are included at no little length in this report.

Needless to say the financial trouble and business depression is treated with at no little length.

The report of Mr. Willard S. Pope, Resident Engineer and successor of Mr. Ilsley, contains the following interesting data:

"The road was opened to Elgin, 42 miles from Chicago, January 22d, 1850. This portion of the road was originally laid with strap rail iron, resting upon longitudinal stringers, but during 1852-3, this track was replaced with T rail iron.

Opened to Huntley,	55 miles from Chicago,	Sept. 15, 1851.
" " Marengo,	66 " " "	Oct. 18, "
" " Belvidere,	78 " " "	Dec. 3, "
" " Cherry Valley,	84 " " "	Mar. 10, 1852.
" " Rockford,	92 " " "	Aug. 2, "
" " Freeport,	121 " " "	Sept. 1, 1853.
" " Beloit,	21 " " Belvidere,	Nov. 14, "

### Chicago, Fulton and Iowa Line.

Opened to Lane,	45 miles from Junction,	Jan. 10, 1854.
" " Dixon,	68 " " "	Dec. 4, "
" " Sterling,	80 " " "	July 22, 1855.
" " Morrison,	94 " " "	Sep. 23, "
" " Fulton,	105.5 " " "	Dec. 16, "

### Second Track

Opened to City Limits,	2 miles from Chicago,	Sep. 1, 1855.
" " Harlem,	9 " " "	Dec. 15, "
" " Cottage Hill	17 " " "	Oct. 19, 1856.
" " Babcock's Grove	20 " " "	June 7, 1857.
" from Danby to Wheaton	2 1/2 miles	June 7, "
" " Wheaton to Winfield	2 1/2 miles	Nov. 1, "
" to Junction	20 miles from Chicago,	Dec. 6, "

### St. Charles Air Line Branch.

Opened from South Branch station to Harlem, 10 1/2 miles, Jan. 1, 1856.

"The total length of track in use January 1, 1856, is as follows:

Main Line, from Chicago to Freeport	121 miles
Beloit Branch, Belvidere to Beloit	21 "
East Elgin Branch	1.5 "
C. F. & I. line, from Junction to Fulton	105.5 "
St. C. A. L. Branch, from Chicago to Harlem	10.5 "
	<hr/>
	259.5 miles
Second track	30 "
Slidings and gravel pit tracks	42.75 "
	<hr/>
	432.25 miles"

The report shows that the total amount expended for cost of the above road was \$9,395,455.19. There are two items—For bonus stock issued—\$686,510.00 and discount on bonds, exchange, etc.—\$258,619.54 included in the above amount. Every portion of the road and equipment was paid for in cash and the practice of paying stock and bonds to contractors was not resorted to.

The report closes with a list of locomotives in service on the road for this year. A similar list appeared in the report of 1856 but the following contains additional locomotives that were not in service the year previous.

### Locomotives Belonging to the Galena & Chicago Union R. R. Co.

No.	Name of Locomotive	Builder	When put on track	Cyl.	Drivers	Wt. of Engine
1	Pioneer	Baldwin (rebuilt)	1848	10 x18"	54"	10 tons
2	Chicago	Norris & Bros. (rebuilt)	1849	11 1/2 x22"	"	24
3	Elgin	Norris & Bros. (rebuilt)	"	"	"	"
4	Illinois	Norris & Bros. (rebuilt)	1851	14 x22"	"	"

No.	Name of Locomotive	Builder	When put on track	Cyl.	Drivers	Wt. of Engine
5	Winnebago J. B. Turner	Exchanged with C. & A. R. R. for Whittlesey Reb. from Whittlesey by G. & C. U. R. R.	1853	12 1/2 x 20"	54"	12
6	Belvidere	Norris & Bros.	1851	13 x 24"	"	24
7	Rockford	"	"	"	"	"
8	Marengo	Schenectady	1852	12 1/2 x 20"	"	12
9	Minnesota	Norris & Bros.	"	13 x 24"	"	24
10	Iowa	"	"	"	"	"
11	Kishwaukee	"	"	"	"	14
12	Shawbeney	Schenectady	"	15 x 22"	66"	24
13	Waubensee	Norris & Bros.	"	"	"	25
14	Ariel	Lowell M. S.	1853	12 1/2 x 20"	60"	20
15	Cloud	"	"	"	"	"
16	Du Page	Rogers K & G	"	14 x 20"	54"	"
17	Whirling Thunder	"	"	"	66"	23
18	De Kalb	Schenectady	"	16 x 22"	"	25
19	Des Plaines	"	"	"	60"	"
20	Kehotaw	"	"	15 x 22"	66"	"
21	Enterprise	Chicago L. W.	"	"	"	"
22	Wabashaw	Schenectady	"	"	"	"
23	Black Hawk	G. & C. U. R. R.	1854	"	72"	24
24	Falcon	Chicago L. W.	"	"	66"	25
25	Beloit	Schenectady	"	16 x 22"	60"	"
26	Kansas	Chicago L. W.	"	15 x 22"	66"	"
27	Geneva	New York L. W.	"	14 x 22"	60"	24
28	Dixon	Schenectady	"	16 x 22"	"	25
29	W. McQueen	"	"	17 x 22"	72"	28
30	John Ebbert	"	"	"	"	"
31	Oregon	"	"	"	60"	"
32	Sterling	"	"	"	"	"
33	W. H. Brown	Chicago L. W.	"	15 x 22"	"	25
34	Thos. Dyer	"	"	"	"	"
35	Fulton	Schenectady	"	16 x 22"	"	"
36	Nebraska	Rogers K & G	"	"	72"	28
37	W. S. Hudson	"	"	"	"	"
38	Hercules	"	"	15 x 22"	60"	24
39	Samson	"	"	"	"	"
40	Achilles	"	"	"	"	"
41	Winnebago	Schenectady	1855	17 x 22"	"	28
42	Como	Chicago L. W.	"	15 x 22"	66"	25
43	Sauganash	Schenectady	"	17 x 22"	60"	29
44	No. 1	Rogers K & G	"	16 x 22"	"	25
45	Clinton	Schenectady	"	"	57"	28
46	Lyons	"	"	"	"	"
47	Wayne	"	"	17 x 22"	"	28 1/2
48	Savannah	"	"	"	60"	"
49	Franklin	Rogers K & G	"	16 x 22"	"	28
50	Pecatonica	Schenectady	"	"	"	26
51	Grey Hawk	G & C U R. R.	"	15 x 22"	66"	"
52	Nevada	Manchester	1856	16 x 24"	60"	28
53	Malta	"	"	"	"	"
54	Nachusa	Schenectady	"	17 x 24"	"	29
55	Afton	"	"	16 x 22"	57"	28
56	Madison	"	"	"	"	"
57	Fox River	Chicago L. W.	1857	15 x 22"	66"	25
58	Freeport	Schenectady	"	16 x 22"	60"	28
59	Caledonia	"	"	"	57"	"
60	Roscoe	"	"	"	"	"

# 1858

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	?
Chicago to Freeport, Beloit & Fulton City.		No. of Passenger Cars . . . . .	?
		No. of Freight Cars . . . . .	?

"From reliable statistics of a number of years, of the traffic moving over the Railroads and Canals of New York, it has been ascertained that the tonnage moving towards market is four times as great as that moving in the opposite direction—the aggregate values of each being about the same. About this proportion of tonnage in the two directions, may be expected to occur upon a railroad situated like ours, when the country becomes well settled along its line and beyond its influence.

"The effect of immigration with its demand for eastern products, including even agricultural products to be carried westward, has hitherto nearly equalized our tonnage in both directions." \* \* \*

Mr. Willard S. Pope, Resident Engineer, mentions in his report the disastrous floods on June 3rd of this year. With the streams already full and the ground thoroughly saturated, there fell in seven hours on that day 2.625 inches of water at Beloit, 3.980 at Marengo and 4.200 at Winnebago, causing bridges and tracks to be washed out at several places along the track.

At Bass Creek, Wisconsin, connection was made with the Beloit & Madison R. R., operated by this company, and that of the southern Wisconsin branch of the Milwaukee & Mississippi R. R., allowing through cars to run to Janesville, a distance of one hundred and eighteen miles from Chicago. Direct connection is thus made for Madison, Prairie du Chien, etc. The service commenced on May 17th of this year.

Financial troubles have been experienced by the Fox River Valley R. R., and the road is being operated by the bondholders. Upon reorganization, the G & C U R. R. will hold one-fifth of the stock of the road.

# 1859

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	?
Chicago to Freeport, Beloit & Fulton City.		No. of Passenger Cars . . . . .	?
		No. of Freight Cars . . . . .	?

During the year the Chicago, Iowa & Nebraska R. R. was extended to Cedar Rapids, eighty-two miles from the Mississippi River.

A bridge over the east channel of the Mississippi River, between the Illinois shore and Little Rock Island has been constructed. Should it be decided not to build a bridge across the other channel, a steam ferry will provide for an interchange of cars between the two roads.

From Fulton, a track has been built to connect with the bridge of the Chicago, Iowa & Nebraska R. R. This was done after it was apparent that the Lyons Iowa Central R. R. would not be completed in time.

The Sterling & Rock Island R. R., extending from Sterling on the "Air Line" of this company to Rock Island, a distance of fifty miles and passing through the Rock River Valley is expected to be completed in August of next year. This will connect this road with the coal mines near Rock Island and furnish this road with a cheap supply of fuel.

The Fox River Valley R. R. has been re-organized as the Elgin & State Line Railroad Company, and is controlled by this company under contract dated November 11, 1858. The road and rolling stock is to be placed in the hands of the G & C U R. R. for five years, and the net profits, if any, to be turned over to the Fox River Valley R. R. Over one-fifth of the stock is owned by the G & C U R. R.

During the last year, the Racine & Mississippi R. R. has been extended to Freeport and the Kenosha & Rockford R. R. extended to Rockford. These roads, in connection with the Chicago & Northwestern form competing lines to the above points.

Mr. Willard S. Pope, Resident Engineer, makes an interesting statement as follows: "Another and important means of obtaining elasticity (of roadbed) is to secure the ends of the rails where they abut against each other, that the joint may come between and not rest directly upon the ties. Various methods of fastening the ends of the rails to secure this advantage have been devised. We are experimenting with several, and hope to arrive at a satisfactory result. The joints are the weak places in the track. Nine-tenths of all the rails that fail, do so at the ends. A more perfect method of fastening is greatly to be desired."

#### 1863

Miles of Road Operated . . . . .	259.5	No. of Locomotives . . . . .	?
Chicago to Freeport, Beloit & Fulton City.		No. of Passenger Cars . . . . .	?
		No. of Freight Cars . . . . .	?

The reports covering the activities of the G & C U R. R. for the years 1860-1862 are not in the Baker Library and we must close the history of this interesting pioneer road with the accounts given in the report covering the activities of the year 1863.

Early in the year, there were delivered to the officers of the United States Government upon requisition, fifty box and ten platform cars. These were replaced by equipment built in the shops of this Company at a loss of \$8,464.20. Last November a similar requisition was made for ten box cars and a later requisition called for the use of sixteen box and platform cars which were delivered to the Michigan Central R. R. Ten freight engines have been contracted for to help handle the business of the road.

Mr. W. H. Brown, President, states in regard to the amount of equipment: "The business of your road demands an enlargement of rolling stock to, at least, one hundred locomotives and two thousand cars. It consists at this time, including that obtained from the Elgin & State Line Co. and that purchased and received from the Chicago, Iowa & Nebraska Co. of 1540 cars of all description and 74 locomotives. Of these, fourteen are only adapted to and used for switching purposes, leaving sixty for passenger and freight trains."

On December 1st of this year, trains were running on the Cedar Rapids & Missouri River road as far as State Center, fourteen miles west of Marshalltown. The Beloit & Madison road is now running trains to Evansville, twenty-five miles from Beloit.



In Chicago, the grain elevator was thoroughly repaired and overhauled at a cost of \$25,318.54. This elevator yields an annual rent of \$25,000.00.

The sum of \$20,000.00 was spent in renovating and enlarging the passenger station and offices on Wells Street, Chicago.

The wooden bridge over the Des Plaines river has been replaced by one built of iron at a cost of \$36,736.75.

Mention is made in this report of the cost of fuel. The cost of wood is practically prohibited. The fuel used by engines fitted for burning coal is shipped from Erie, Pennsylvania. The Illinois coal is very inferior, but unlimited supplies of coal have been found along the Rock River, about thirty miles south-east of Fulton. A line is suggested being built to have access to these coal beds.

Mr. Willard S. Pope, Engineer, makes an interesting statement—"Injured rails taken from the track are repaired at the Company's shops, by welding new iron over the defective parts". A total of 540,499 lineal inches were thus welded this year making an average of 28½ inches to each rail. Of this amount, 450,620 inches were due to repairs on the ends of rails while 89,879 inches were welded in the middle of the rails.

In the last part of this year, plans were made to build a bridge across the Mississippi River at Clinton, Iowa. A span of 2800 feet has already been built from the Illinois shore to Little Rock Island. The proposed plan calls for two spans of 175 feet each, one span of 200 feet and one span of 300 feet, the latter being the draw span. The draw span will be of the type known as Bollman's Patent Suspension Truss and will be built of iron. The other spans will be built of timber and of the style known as Howe's Patent Truss.

The report of 1864, the year the Galena & Chicago Union R. R. was consolidated with the Chicago & North-western Ry. is not in the files of the Baker Library, but the report of the C & N-W Ry. gives the details of the merger.

The Galena & Chicago Union R. R. at the time of its merger operated and owned the following lines:

#### Directly Owned.

1. Chicago to Freeport .....	121 miles
2. Dixon Air Line—From 30 mile Jct. to Mississippi River with branch at Fulton .....	108 "
3. Beloit Branch—Belvidere to Beloit .....	21 "
4. St. Charles Air Line—Chicago River to Harlem .....	9 "
5. Elgin & State Line .....	33 "
6. Elgin Branch .....	2 "
	<hr/>
	294 miles

#### Roads Under Perpetual Lease

Chicago, Iowa & Nebraska R. R. ....	82 miles
Cedar Rapids & Missouri River R. R. ....	108 "
Beloit & Madison R. R. ....	47 "
	<hr/>
	251 miles

The Chicago and North Western Ry. at the time of the consolidation consisted of the following lines:

Chicago to Green Bay, Wis. ....	242 miles
Kenosha to Rockford . . . . .	73 "
	<hr/> 315 miles

The consolidation of the two roads took place on June 2, 1864, the share holders of the Galena & Chicago Union R. R. receiving an equal number of C & N-W Ry. shares for each share held of the G & C U R. R. The name—"Chicago & North-Western Ry." was retained because it fitted better with the country the roads developed. Then, Galena was not touched by the G & C U R. R. and for that reason the name of that road was not considered. It is hinted in the report that the reason why the name of one of the roads was selected was so as to avoid the changing of books, blanks, a certain portion of the equipment instead of all, etc.

The two roads had a few competitive points and the consolidation was a wise move in making two roads into one strong system. Perhaps the real reason as to why the Galena & Chicago Union R. R. did not retain its own identity was its failure to reach the Mississippi River at Galena. When this mistake had been realized, every effort was made to build the road to Fulton and to develop that road as the main line. Thus ended the career of the pioneer road from Chicago, westward, under its original name.

Year	No. of Passengers Carried	Passenger Revenue	Tons of Freight Carried	Freight Revenue	Total Earnings	Net Earnings
1851	69,782	\$ 56,472.69	52,119	\$ 68,586.67	\$ 127,685.78	\$ 78,781.54
1852	91,920	85,187.15	74,052	121,805.24	211,310.55	123,948.88
1853	140,016	192,461.05	126,618	272,406.16	473,548.21	286,151.82
1854	238,296	339,996.39	183,206	447,667.52	799,013.88	439,814.84
1855	406,698	629,692.45	386,344	859,363.07	1,506,710.11	820,103.25
1856	553,772	880,410.44	685,307	1,405,235.11	2,315,786.96	1,150,042.11
1857	612,573	906,068.79	690,808	1,463,059.32	2,416,343.85	1,120,850.10
1857*	404,031	522,187.18	344,887	1,063,230.06	1,640,806.94	719,655.12
1858	394,613	472,269.13	342,946	1,022,141.65	1,547,561.23	620,308.39
1859	295,747	397,401.94	332,444	918,246.83	1,369,441.03	546,419.54
1860						
1861						
1862						
1863	465,876	496,316.34	511,710	1,621,096.94	2,201,481.20	915,569.05

\*From May 1, 1857 to December 31, 1857 only.

## The "Pioneer"



E cannot close without a word in regard to this famous old locomotive, a locomotive so well known that its contemporaries are almost unknown so far as photographs of them are concerned.

The old "Pioneer" was built by M. W. Baldwin on July 14th, 1836. It carried builder's No. 37 and was originally built as the No. 7 for the Utica & Schenectady R. R. It remained in service on the Utica & Schenectady R. R. and was then sold to the Michigan Central R. R. which was rapidly pushing its rails westward. Authorities state this engine was renamed "Alert" by the Michigan Central R. R. and sold under that name to the Galena & Chicago Union R. R.

My attention was recently called by one of our members which indicated there might be a discrepancy in this well-founded belief. The reports of the Michigan Central R. R. do not list their locomotives until 1855 and curiously enough, as shown in Bulletin No. 19, the "Alert", a 10x18" cylinder 2 drivers 54" is listed therein.

The reports of the Galena & Chicago Union R. R. show that the "Pioneer" was placed in service October 24th, 1848, but there is nothing in the report to indicate the name under which this locomotive was delivered to the Galena & Chicago Union R. R. The Michigan Central R. R. Report of 1845 lists six ten ton locomotives of six wheels, two drivers as being received by that road from the State of Michigan. The report of the same road for 1855 indicates that two of these locomotives were still in service on that road named "Swallow" and "Alert".

On April 23, 1848, the Michigan Central R. R. was opened from Detroit to New Buffalo and the road was then considered finished, altho they found they ultimately must extend to Chicago. These six light engines, if used much at all, were doubtless engaged in construction work and what would be more natural than their road having been completed that some or any of these light single driver engines were sold to the Galena & Chicago Union or any other road that would take them off their hands. In some cases some of these single pair of driving engines were rebuilt to 4-4-0's.

We are certain that the "Pioneer" was Baldwin's No. 37 and that it was originally built for the Utica & Schenectady R. R., and came to the Galena & Chicago Union R. R. from the hands of the Michigan Central but in view of the fact the "Alert" appears on the Michigan Central roster of 1855, it would be interesting to know how this could be the "Pioneer" on the Galena & Chicago Union R. R. if sold by the Michigan Central in 1848 as the Galena & Chicago Union R. R. most certainly received and paid for the "Pioneer" in that year.

The Chicago & North-Western Ry. states the "Pioneer" had 10x18" cylinders, one pair of driving wheels 54" in diameter and weighed ten tons. The engine was placed in service October 24, 1848 and was used to open the road. After many years of service the engine was retired

and it was due to the foresight of the late Mr. Marvin Hughitt, President of the Chicago & North-Western Ry. that the old "Pioneer" was saved from destruction and preserved for generations to come. It has been shown at various "Fairs" and is still safely preserved by the Chicago & North-Western Railway.

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## *The Little Locomotive With the Big Smokestack*

By JOHN LOYE

To the Engine "Pioneer", the first locomotive to come to Chicago on the Galena & Chicago Union Railroad.

Now where Chicago burns tonight her thousand lamps aglow,  
And her shadows on Lake Michigan in silver currents flow,  
I can see those tinselled waters long before the arc light came,  
When the Dearborn shores were dotted with the gas-lamp's amber flame.  
So pictured in my fancy is the wending wagon train,  
And the log-hut by the forest and the teepee on the plain;  
And the engine with the funnel on the timber trestle high,  
Like the first that fired a cinder on the plains of Illinoy.  
That bore the doughty pioneers that made a nation grow,  
Where the Sioux roamed the prairie, and the lordly buffalo;  
In the days of early venture from our triumphs looking back,  
To the little locomotive with the big smoke stack.

Where bold Columbus set his gaze the sun set calm and clear,  
In the vast and vacant vista that his sailors faced in fear.  
But its shadow shed before him on the evening ocean lay,  
Like a golden path to guide him on his long mysterious way.  
Then, so inspired, he followed o'er that wondrous western sea,  
With the sun of promise smiling on the waves of destiny;  
And it led the world for ages, and the legions in his line,  
From the dormant vales of Europe, and the Liffey and the Rhine.  
Who reared us to an empire over all that left their names,  
From the Tigris to the Tiber, from the Tiber to the Thames.  
So I dream of days romantic, from our triumphs looking back,  
To the little locomotive with the big smoke stack.

Originally published in our Bulletin 22.

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IN MEMORY OF  
GEORGE FISHER BAKER  
2 WALL STREET  
NEW YORK, NEW YORK  
LIFE MEMBER  
WHO DIED ON MAY 2, 1931

AND

RUFUS M. SANFORD  
LIBRARIAN, BALDWIN LOCOMOTIVE WORKS  
PHILADELPHIA, PENNSYLVANIA  
WHO DIED ON DECEMBER 4, 1931

ALSO

CHARLES CURTIS EATON  
LIFE MEMBER

AND

SECRETARY OF  
THE RAILWAY & LOCOMOTIVE HISTORICAL SOCIETY  
WHO DIED ON MARCH 3RD, 1932

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## *Charles Curtis Eaton*

On Saturday of March 3rd, in the Baker Library which he had planned, occurred the funeral services of Charles Curtis Eaton, Assistant Dean of the Harvard Business School and Secretary of our Society.

Charles Curtis Eaton was born in Providence, R. I. on January 16, 1880. He prepared at Cambridge Latin School and graduated with his degree of Bachelor of Arts from Harvard University in 1902. He went to the Philippines, taught the natives awhile and became a hemp buyer.

Returning to this country he became Purchasing Agent for the Nicholson File Company in Providence. In 1906 he went to California and was engaged in the Real Estate business. Two years later he returned to New York to enter the publishing business and eventually became connected with the publishing department of the General Electric Co.

In February, 1917, he joined the Norton-Harjes ambulance unit and saw service with the French army. When the United States entered the war the unit was suspended and physical disability prevented him from entering the A. E. F. As civilian employe he was made chief clerk of the balloon section of the air service with headquarters in Paris. He finally managed to join the Red Cross and saw service in the St. Mihiel, Argonne Forest and Verdun offenses as a Red Cross Lieutenant.

After the war he resumed his duties with the General Electric Company and when his friend, Wallace B. Donham became Dean of the Graduate School, Mr. Eaton was asked to assume charge of the library which then had about 16,000 books. Under his direction the number of books was increased to 100,000 and to this was added about 1,000,000 pamphlets.

Mr. Eaton had a major part in the planning and the building of the Baker Library and it was his hope to see 500,000 volumes in this library. In 1929 he was made Assistant Dean of the Graduate School.

It was the result of Mr. Eaton's efforts that this Society was permitted to have its quarters in the Baker Library in 1927. He was elected a Director of this Society in November, 1925 and became our Secretary in January, 1930. No one who was privileged to work with or who knew Mr. Eaton could help but like him and his ever cheeriness and willingness to assist in all matters made his fellowship one that we will all remember.

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